AMENDMENT TO THE CLAIMS

1. (Currently Amended) A method of identifying an estimate for a noise-reduced value representing a portion of a noise-reduced speech signal, the method comprising:

decomposing each frame~~a portion~~ of a noisy speech signal into a harmonic component for the frame and a random component for the frame;

for each frame, determining a separate scaling parameter for the frame for at least the harmonic component wherein determining a scaling parameter for each frame of the harmonic component comprises determining a ratio of an energy of the harmonic component in the frame without the random component of the frame to an energy of the frame of the noisy speech signal;

for each frame, multiplying the harmonic component of the frame by the scaling parameter of the frame for the harmonic component to form a scaled harmonic component for the frame;

for each frame, multiplying the random component of the frame by a fixed scaling parameter for the random component, wherein the fixed scaling parameter is the same for all frames and is less than one to form a scaled random component for the frame; and

for each frame, summing the scaled harmonic component for the frame and the scaled random component for the frame to form the noise-reduced value representing a frame~~portion~~ of a noise-reduced speech signal wherein the frame~~portion~~ of the noise-reduced speech signal has reduced noise relative to the frame~~portion~~ of the noisy speech signal.

2. (Previously Presented) The method of claim 1 wherein decomposing the portion of the noisy speech signal comprises modeling the harmonic component as a sum of harmonic sinusoids.

3. (Previously Presented) The method of claim 2 wherein decomposing the portion of the noisy speech signal further comprises determining a least-squares solution to identify the harmonic component.

4. (Canceled)

5. (Previously Presented) The method of claim 1 wherein determining a ratio comprises:

summing the energy of samples of the harmonic component;

summing the energy of samples of the noisy speech signal; and

dividing the sum for the harmonic component by the sum for the noisy speech signal.

6. (Previously Presented) The method of claim 1 wherein decomposing the portion of the noisy speech signal comprises decomposing a vector of time samples from a frame of the noisy speech signal into a harmonic component vector of time samples and a random component vector of time samples.

7. (Original) The method of claim 6 further comprising determining a Mel spectrum for the harmonic component from the harmonic component vector of time samples.

8. (Previously Presented) The method of claim 7 wherein multiplying the harmonic component by the scaling parameter comprises multiplying the Mel spectrum for the harmonic component by the scaling parameter.

9. (Original) The method of claim 8 further comprising forming a Mel Frequency Cepstral Coefficients feature vector from the noise-reduced value.

10. (Previously Presented) The method of claim 9 further comprising using the Mel Frequency Cepstral Coefficients feature vector to perform speech recognition.

11. (Original) The method of claim 1 further comprising using the noise-reduced value to perform speech recognition.

12. (Original) The method of claim 1 further comprising using the noise-reduced value in speech coding.

13. (Currently Amended) A computer-readable storage medium having computer-executable instructions for performing steps comprising:

identifying a harmonic component and a random component in a noisy speech signal wherein identifying the harmonic component comprises modeling the harmonic component as a sum of harmonic sinusoids, each sinusoid having an amplitude parameter;

forming a weighted sum to produce a noise-reduced value representing a noise-reduced speech signal that has reduced noise compared to the noisy speech signal, wherein the weighted sum is formed by multiplying the harmonic component by a scaling value for the harmonic component to form a scaled harmonic component, multiplying the random component by a scaling value for the random component to form a scaled random component and adding the scaled harmonic component to the scaled random component to produce the noise reduced value, wherein the scaling value for the harmonic component is different than the scaling value for the random component, the scaling value for the harmonic component is separately determined for each frame of the noisy speech signal and the scaling value for the random component is fixed for all frames of the noisy speech signal so that the same scaling parameter for

the random component is used on each frame of the noisy speech signal; and

using the noise-reduced value to perform speech recognition.

14. (Canceled)

15. (Currently Amended) The computer-readable storage medium of claim 13 wherein identifying the harmonic component further comprises identifying a least-squares solution.

16. (Currently Amended) The computer-readable storage medium of claim 13 wherein identifying the harmonic component comprises identifying a vector of time samples representing a harmonic component.

17. (Currently Amended) The computer-readable storage medium of claim 16 wherein identifying the harmonic component further comprises converting the vector of time samples into a Mel spectrum for the harmonic component.

18. (Canceled)

19. (Canceled)

20. (Currently Amended) The computer-readable storage medium of claim 13 further comprising determining the scaling value for the harmonic component by determining a ratio of an energy of the harmonic component to an energy of the noisy speech signal.

21. (Canceled)

22. (Canceled)

23. (Canceled)

24. (Currently Amended) The computer-readable storage medium of claim 13 wherein using the noise-reduced value to perform speech recognition comprises converting the noise-reduced value into a feature vector and using the feature vector as input to a speech recognition system.

25. (Currently Amended) The computer-readable storage medium of claim 24 wherein the feature vector comprises a Mel Frequency Cepstral Coefficient feature vector.